10/070,728

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FILE 'HOME' ENTERED AT 09:40:06 ON 13 SEP 2004

=> file biosis medline caplus wpids uspatfull
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*** YOU HAVE NEW MAIL ***

=> s nucleotide and terminal (5a) thiol (6a) chain?
L1          12 NUCLEOTIDE AND TERMINAL (5A) THIOL (6A) CHAIN?

=> s l1 and thiol(7a) base?
L2           2 L1 AND THIOL(7A) BASE?

=> d l2 bib abs 1-2

L2   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2001:208441  CAPLUS
DN   134:222979
TI   Preparation of metal cluster containing nucleotides and nucleic acids, and
     intermediates therefor
IN   Sperling, Joseph; Medalia, Ohad
PA   Yeda Research and Development Co. Ltd., Israel
SO   PCT Int. Appl., 39 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     ---------------     ----   --------    -------------------      --------
PI   WO 2001020017        A2    20010322    WO 2000-IL564            20000913
     WO 2001020017        A3    20011004
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     AU 2000073095        A5    20010417    AU 2000-73095            20000913
     EP 1244681           A2    20021002    EP 2000-960948           20000913
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL
PRAI IL 1999-131889       A     19990914
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WO 2000-IL564 W 20000913

AB Nucleotides including a sugar moiety, a pyrimidine or purine **base** and a **terminal thiol** group at a side **chain** covalently linked to the pyrimidine or purine base of the **nucleotide**, and optionally further including a metal cluster covalently linked through the **terminal thiol** group at said side **chain** to the pyrimidine or purine base of the **nucleotide**, and nucleic acids incorporating same. The attachment of gold-clusters at random locations in a nucleic acid mol., comprising: (i) preparation of precursor deoxyribonucleoside triphosphates (NTP) and ribonucleoside triphosphates (rNTP) whose heterocyclic ring contains substituents with a terminal thiol group (NTP-SH and rNTP-SH, resp.); (ii) incorporation of these precursor mols. into DNA or RNA in reactions catalyzed by DNA polymerase or RNA polymerase, resp.; and (iii) attachment of gold-clusters to the free thiol groups, either by reacting with a com. available maleimido derivative of the cluster, or by reacting with colloidal gold of pre-determined size.

L2 ANSWER 2 OF 2 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2001-244817 [25] WPIDS
DNC C2001-073488
TI New **nucleotide**, useful for the covalent tagging of RNA molecules with gold clusters, comprises a sugar group, a phosphodiester, a pyrimidine and a terminal thiol group.
DC B02 B03 B04 D16
IN MEDALIA, O; SPERLING, J
PA (YEDA) YEDA RES & DEV CO LTD
CYC 95
PI WO 2001020017 A2 20010322 (200125)* EN 33
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000073095 A 20010417 (200140)
EP 1244681 A2 20021002 (200265) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2001020017 A2 WO 2000-IL564 20000913; AU 2000073095 A AU 2000-73095 20000913; EP 1244681 A2 EP 2000-960948 20000913, WO 2000-IL564 20000913
FDT AU 2000073095 A Based on WO 2001020017; EP 1244681 A2 Based on WO 2001020017
PRAI IL 1999-131889 19990914
AN 2001-244817 [25] WPIDS
AB WO 200120017 A UPAB: 20010508
NOVELTY - A **nucleotide** (I) comprising:

(a) a natural sugar group or its sugar analog;
(b) a natural phosphodiester or any internucleosidyl linkage;
(c) a natural pyrimidine or purine base or their base analogs; and
(d) a **terminal thiol** group at a side **chain**, which is covalently linked to the pyrimidine or purine base or their base analogs, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a nucleic acid (II) comprising at least one of (I); and
(2) labelling a nucleic acid molecule at random locations with a metal comprising attaching metal atoms to the free thiol groups of (II).

USE - The nucleotides are useful for the covalent tagging of RNA molecules with gold clusters, enabling their direct visualization by microscopical methods. This is useful for the structural characterization of protein-RNA complexes and in microelectronic devices. The metal-tagged nucleic acids are also useful as probes for macromolecular assemblies.

ADVANTAGE - The covalent binding of gold or other heavy metal

clusters to nucleic acids is stable and direct as it does not require secondary molecules such as antibodies or biotin-avidin complexes. The metal clusters are relatively small and uniform in size and do not tend to aggregate. This produces better sensitivity and resolution to the method. Furthermore the method enables the labelling of specific residues along the nucleic acid chain (e.g. uridines or adenosines) and also to vary the density of the label by varying the concentration of the thiolated **nucleotide** during the enzymatically driven polymerization.
Dwg.0/5

=>

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=> d his

     (FILE 'HOME' ENTERED AT 09:40:06 ON 13 SEP 2004)

     FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 09:40:22 ON
     13 SEP 2004
L1            12 S NUCLEOTIDE AND TERMINAL (5A) THIOL (6A) CHAIN?
L2             2 S L1 AND THIOL(7A) BASE?

=> s l1 not l2
L3            10 L1 NOT L2

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4            10 DUP REM L3 (0 DUPLICATES REMOVED)

=> d l4 bib abs 1-10

L4   ANSWER 1 OF 10  USPATFULL on STN
AN     2004:2102  USPATFULL
TI     Detection of transmembrane potentials by optical methods
IN     Tsien, Roger Y., La Jolla, CA, UNITED STATES
       Gonzalez, Jesus E., III, San Diego, CA, UNITED STATES
PA     THE REGENTS OF THE UNIVERSITY OF CALIFORNIA (U.S. corporation)
PI     US 2004002123      A1   20040101
AI     US 2002-334288     A1   20021231 (10)
RLI    Continuation of Ser. No. US 2001-967772, filed on 28 Sep 2001, PENDING
       Continuation of Ser. No. US 1999-459956, filed on 13 Dec 1999, GRANTED,
       Pat. No. US 6342379 Continuation-in-part of Ser. No. US 1997-765860,
       filed on 8 May 1997, GRANTED, Pat. No. US 6107066 A 371 of International
       Ser. No. WO 1996-US9652, filed on 6 Jun 1996, PENDING
       Continuation-in-part of Ser. No. US 1995-481977, filed on 7 Jun 1995,
       GRANTED, Pat. No. US 5661035
DT     Utility
FS     APPLICATION
LREP   Lisa A. Haile, J.D., Ph.D., GARY CARY WARE & FREIDENRICH LLP, Suite
       1100, 4365 Executive Drive, San Diego, CA, 92121-2133
CLMN   Number of Claims: 139
ECL    Exemplary Claim: 1
DRWN   27 Drawing Page(s)
LN.CNT 4370
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     Methods and compositions are provided for detecting changes in membrane
       potential in membranes biological systems. In one aspect, the method
       comprises;

       a) providing a living cell with a first reagent comprising a charged
       hydrophobic molecule which is typically a fluorescence resonance energy
       transfer (FRET) acceptor or donor, or is a quencher and is capable of
       redistributing within the membrane of a biological membrane in response
       to changes in the potential across the membrane;

       b) providing the cell with a second reagent that can label the first
       face or the second face of a biological membrane within the cell;

       c) detecting light emission from the first reagent or the second
       reagent.

       One aspect of this method involves monitoring membrane potential changes
       in subcellular organelle membranes in a living cells.

       Another aspect of the invention is the use of certain embodiments of the
       method for the screening of test chemicals for activity to modulate the
```

activity of a target ion channel.

Another aspect of the present invention is a transgenic organism comprising a first reagent that comprises a charged hydrophobic fluorescent molecule, and a second reagent comprising a bioluminescent or naturally fluorescent protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 2 OF 10 USPATFULL on STN
AN 2003:294234 USPATFULL
TI Detection of transmembrane potentials by optical methods
IN Tsien, Roger Y., La Jolla, CA, UNITED STATES
Gonzalez, Jesus E., III, San Diego, CA, UNITED STATES
PI US 2003207248 A1 20031106
AI US 2002-335517 A1 20021231 (10)
RLI Continuation of Ser. No. US 2001-967772, filed on 28 Sep 2001, PENDING Continuation of Ser. No. US 1999-459956, filed on 13 Dec 1999, GRANTED, Pat. No. US 6342379 Continuation-in-part of Ser. No. US 1997-765860, filed on 8 May 1997, GRANTED, Pat. No. US 6107066 A 371 of International Ser. No. WO 1996-US9652, filed on 6 Jun 1996, PENDING Continuation-in-part of Ser. No. US 1995-481977, filed on 7 Jun 1995, GRANTED, Pat. No. US 5661035
DT Utility
FS APPLICATION
LREP Lisa A. Haile, J.D., Ph.D., GRAY CARY WARE & FREIDENRICH LLP, Suite 1100, 4365 Executive Drive, San Diego, CA, 92121-2133
CLMN Number of Claims: 139
ECL Exemplary Claim: 1
DRWN 27 Drawing Page(s)
LN.CNT 4375
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions are provided for detecting changes in membrane potential in membranes biological systems. In one aspect, the method comprises;

a) providing a living cell with a first reagent comprising a charged hydrophobic molecule which is typically a fluorescence resonance energy transfer (FRET) acceptor or donor, or is a quencher and is capable of redistributing within the membrane of a biological membrane in response to changes in the potential across the membrane;

b) providing the cell with a second reagent that can label the first face or the second face of a biological membrane within the cell;

c) detecting light emission from the first reagent or the second reagent.

One aspect of this method involves monitoring membrane potential changes in subcellular organelle membranes in a living cells.

Another aspect of the invention is the use of certain embodiments of the method for the screening of test chemicals for activity to modulate the activity of a target ion channel.

Another aspect of the present invention is a transgenic organism comprising a first reagent that comprises a charged hydrophobic fluorescent molecule, and a second reagent comprising a bioluminescent or naturally fluorescent protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 3 OF 10 USPATFULL on STN
AN 2002:301149 USPATFULL

TI Biosensor detector array
IN Cass, Anthony E.G., London, UNITED KINGDOM
PI US 2002168692 A1 20021114
AI US 2002-55367 A1 20020125 (10)
RLI Continuation-in-part of Ser. No. WO 2000-GB3768, filed on 2 Oct 2000, UNKNOWN
PRAI GB 1999-23146 19990930
DT Utility
FS APPLICATION
LREP NIXON & VANDERHYE P.C., 8th Floor, 1100 North Glebe Road, Arlington, VA, 22201-4714
CLMN Number of Claims: 50
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 1813
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is provided for analyzing a sample. The method comprises the steps of: i) contacting the sample with a detector array comprising a plurality of discrete biological sensing elements immobilized onto or within a solid support; wherein each discrete biological sensing element comprises a detectable label whose characteristics change detectably when the element binds to a ligand within the sample; ii) measuring the characteristics of the detectable label for each element of the array to produce a pattern; and iii) performing data analysis of the pattern; wherein the biological sensing elements are capable of binding more than one different ligand.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 4 OF 10 USPATFULL on STN
AN 2002:294534 USPATFULL
TI Detection of transmembrane potentials by optical methods
IN Tsien, Roger Y., La Jolla, CA, UNITED STATES
Gonzalez, Jesus E., III, San Diego, CA, UNITED STATES
PA THE REGENTS OF THE UNIVERSITY OF CALIFORNIA (U.S. corporation)
PI US 2002164577 A1 20021107
AI US 2001-967772 A1 20010928 (9)
RLI Continuation of Ser. No. US 1999-459956, filed on 13 Dec 1999, GRANTED, Pat. No. US 6342379 Continuation-in-part of Ser. No. US 1997-765860, filed on 8 May 1997, GRANTED, Pat. No. US 6107066 A 371 of International Ser. No. WO 1996-US9652, filed on 6 Jun 1996, UNKNOWN
Continuation-in-part of Ser. No. US 1995-481977, filed on 7 Jun 1995, GRANTED, Pat. No. US 5661035
DT Utility
FS APPLICATION
LREP Lisa A. Haile, J.D., Ph.D., GRAY CARY WARE & FREIDENRICH LLP, Suite 1100, 4365 Executive Drive, San Diego, CA, 92121-2133
CLMN Number of Claims: 139
ECL Exemplary Claim: 1
DRWN 27 Drawing Page(s)
LN.CNT 4388
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions are provided for detecting changes in membrane potential in membranes biological systems. In one aspect, the method comprises;

a) providing a living cell with a first reagent comprising a charged hydrophobic molecule which is typically a fluorescence resonance energy transfer (FRET) acceptor or donor, or is a quencher and is capable of redistributing within the membrane of a biological membrane in response to changes in the potential across the membrane;

b) providing the cell with a second reagent that can label the first face or the second face of a biological membrane within the cell;

c) detecting light emission from the first reagent or the second reagent.

One aspect of this method involves monitoring membrane potential changes in subcellular organelle membranes in a living cells.

Another aspect of the invention is the use of certain embodiments of the method for the screening of test chemicals for activity to modulate the activity of a target ion channel.

Another aspect of the present invention is a transgenic organism comprising a first reagent that comprises a charged hydrophobic fluorescent molecule, and a second reagent comprising a bioluminescent or naturally fluorescent protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 5 OF 10 USPATFULL on STN
AN 2002:185284 USPATFULL
TI Polyalkylene oxide-modified single chain polypeptides
IN Whitlow, Marc, El Sobrante, CA, UNITED STATES
Shorr, Robert G.L., Edison, NJ, UNITED STATES
Filpula, David R., Piscataway, NJ, UNITED STATES
Lee, Lihsyng Standford, Junction, NJ, UNITED STATES
PA ENZON, INC. (U.S. corporation)
PI US 2002098192 A1 20020725
AI US 2001-791540 A1 20010226 (9)
RLI Continuation of Ser. No. US 1998-69842, filed on 30 Apr 1998, ABANDONED
PRAI US 1997-44449P 19970430 (60)
US 1997-50472P 19970623 (60)
US 1997-63074P 19971027 (60)
US 1997-67341P 19971202 (60)
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 63
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 3135
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to the chemical modification of single chain polypeptides by means of covalent attachment of strands of poly(ethylene glycol) PEG and similar poly(alkylene oxides) to single chain polypeptide binding molecules that have the three dimensional folding and, thus, the binding ability and specificity, of the variable region of an antibody. Such preparations of modified single chain polypeptide binding molecules have reduced immugenicity and antigenicity as well as having a longer halflife in the bloodstream as compared to the parent polypeptide. These beneficial properties of the modified single chain polypeptide binding molecules make them very useful in a variety of therapeutic applications. The invention also relates to multivalent antigen-binding molecules capable of PEGylation. Compositions of, genetic constructions for, methods of use, and methods for producing PEGylated antigen-binding proteins are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 6 OF 10 USPATFULL on STN
AN 2002:126044 USPATFULL
TI Radiation sensitive liposomes
IN O'Brien, David F., Tucson, AZ, UNITED STATES
McGovern, Kathy A., Tucson, AZ, UNITED STATES

Bondurant, Bruce, Tucson, AZ, UNITED STATES
Sutherland, Robert, Menlo Park, CA, UNITED STATES
PI US 2002064554 A1 20020530
AI US 2000-728716 A1 20001130 (9)
PRAI US 1999-168100P 19991130 (60)
DT Utility
FS APPLICATION
LREP William Schmonsees, Heller Ehrman White & McAuliffe LLP, Suite 1100, 525 University Avenue, Palo Alto, CA, 94301-1900
CLMN Number of Claims: 33
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 1444
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a radiation sensitive liposome, and the use of this liposome as carrier for therapeutic and diagnostic agent(s). In particular, the invention encompasses a liposomal delivery system, comprising a stable liposome-forming lipid and a polymerizable colipid, a fraction of which polymerizable colipid polymerizes upon exposure to ionizing radiation, thereby destabilizing the liposomal membrane. Destabilization of liposomes allows for leakage of liposomal contents. The present invention further contemplates methods of diagnosing and treating conditions and diseases that are responsive to liposome-encapsulated or associated agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 7 OF 10 USPATFULL on STN
AN 2002:119327 USPATFULL
TI Polyalkylene oxide-modified single chain polypeptides
IN Whitlow, Marc, El Sobrante, CA, UNITED STATES
Shorr, Robert G.L., Edison, NJ, UNITED STATES
Filpula, David R., Piscataway, NJ, UNITED STATES
Lee, Lihsyng Standford, Princeton Junction, NJ, UNITED STATES
PA ENZON, INC. (U.S. corporation)
PI US 2002061307 A1 20020523
AI US 2001-791578 A1 20010226 (9)
RLI Continuation of Ser. No. US 1998-69842, filed on 30 Apr 1998, ABANDONED
PRAI US 1997-44449P 19970430 (60)
US 1997-50472P 19970623 (60)
US 1997-63074P 19971027 (60)
US 1997-67341P 19971202 (60)
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 63
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 3133
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to the chemical modification of single chain polypeptides by means of covalent attachment of strands of poly(ethylene glycol) PEG and similar poly(alkylene oxides) to single chain polypeptide binding molecules that have the three dimensional folding and, thus, the binding ability and specificity, of the variable region of an antibody. Such preparations of modified single chain polypeptide binding molecules have reduced immugenicity and antigenicity as well as having a longer halflife in the bloodstream as compared to the parent polypeptide. These beneficial properties of the modified single chain polypeptide binding molecules make them very useful in a variety of therapeutic applications. The invention also relates to multivalent antigen-binding molecules capable of PEGylation. Compositions of, genetic constructions for, methods of use, and methods

for producing PEGylated antigen-binding proteins are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 8 OF 10 USPATFULL on STN
AN 2002:224705 USPATFULL
TI Hydrophobically-modified hedgehog protein compositions and methods
IN Pepinsky, R. Blake, Arlington, MA, United States
Baker, Darren P., Hingham, MA, United States
Wen, Dingyi, Waltham, MA, United States
Williams, Kevin P., Natick, MA, United States
Garber, Ellen A., Cambrdige, MA, United States
Taylor, Frederick R., Milton, MA, United States
Galdes, Alphonse, Lexington, MA, United States
Porter, Jeffrey, Cambridge, MA, United States
PA Curis, Inc., Cambridge, MA, United States (U.S. corporation)
Biogen, Inc., Cambridge, MA, United States (U.S. corporation)
PI US 6444793 B1 20020903
AI US 1999-325256 19990603 (9)
RLI Continuation of Ser. No. WO 1998-US25676, filed on 3 Dec 1998
PRAI US 1998-99800P 19980910 (60)
US 1998-89685P 19980617 (60)
US 1998-78935P 19980320 (60)
US 1997-67423P 19971203 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Spector, Lorraine; Assistant Examiner: O'Hara, Eileen B.
LREP Ropes & Gray, Vincent, Matthew P.
CLMN Number of Claims: 27
ECL Exemplary Claim: 1
DRWN 27 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 5426
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Hydrophobically-modified proteins and methods of making them are described. A hydrophobic moiety is attached to a surface amino acid residue of the protein. The hydrophobic moiety can be a lipid or a peptide. Alternatively, the protein can be derivatized by a wide variety of chemical reactions that append a hydrophobic structure to the protein. The preferred protein is of mammalian origin and is selected from the group consisting of Sonic, Indian, and Desert hedgehog. The hydrophobic moiety is used as a convenient tether to which may be attached a vesicle such as a cell membrane, liposome, or micelle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 9 OF 10 USPATFULL on STN
AN 2002:19203 USPATFULL
TI Detection of transmembrane potentials by optical methods
IN Tsien, Roger Y., La Jolla, CA, United States
Gonzalez, III, Jesus E., San Diego, CA, United States
PA The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
PI US 6342379 B1 20020129
AI US 1999-459956 19991213 (9)
RLI Continuation-in-part of Ser. No. US 765860, now patented, Pat. No. US 6107066 Continuation-in-part of Ser. No. US 1995-481977, filed on 6 Jun 1995, now patented, Pat. No. US 5661035
DT Utility
FS GRANTED
EXNAM Primary Examiner: Ceperley, Mary E.
LREP Gray Cary Ware & Freidenrich LLP, Haile, Lisa A.
CLMN Number of Claims: 41
ECL Exemplary Claim: 1

DRWN 30 Drawing Figure(s); 27 Drawing Page(s)
LN.CNT 3930
AB Methods and compositions are provided for detecting changes in membrane potential in membranes biological systems. In one aspect, the method comprises;

a) providing a living cell with a first reagent comprising a charged hydrophobic molecule which is typically a fluorescence resonance energy transfer (FRET) acceptor or donor, or is a quencher and is capable of redistributing within the membrane of a biological membrane in response to changes in the potential across the membrane;

b) providing the cell with a second reagent that can label the first face or the second face of a biological membrane within the cell;

c) detecting light emission from the first reagent or the second reagent.

One aspect of this method involves monitoring membrane potential changes in subcellular organelle membranes in a living cells.

Another aspect of the invention is the use of certain embodiments of the method for the screening of test chemicals for activity to modulate the activity of a target ion channel.

Another aspect of the present invention is a transgenic organism comprising a first reagent that comprises a charged hydrophobic fluorescent molecule, and a second reagent comprising a bioluminescent or naturally fluorescent protein.

L4 ANSWER 10 OF 10 USPATFULL on STN
AN 2000:167743 USPATFULL
TI High surface density covalent immobilization of oligonucleotide monolayers
IN McGovern, Mark, 25 Clearside Place, Etobicoke, Canada M9R 2G7
Thompson, Michael, 170 College Street, Toronto, Canada M5S 3E3
PI US 6159695 20001212
AI US 1999-301287 19990428 (9)
RLI Continuation-in-part of Ser. No. US 1997-951448, filed on 16 Oct 1997
DT Utility
FS Granted
EXNAM Primary Examiner: Brusca, John S.; Assistant Examiner: Lundgren, Jeffrey S
LREP Ridout & Maybee
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN 10 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1622
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Oligonucleotides and other biomolecules are immobilized in high density on solid substrates through covalent forces using either a permanent thioether bond, or a chemoselectively reversible disulfide bond to a surface thiol. Substrates which have hydroxyl groups on their surfaces can be first silanized with a trichlorosilane containing 2-20 carbon atoms in its hydrocarbon backbone, terminating in a protected thiol group. The oligonucleotides or other biomolecules are first connected to a tether consisting of a hydrocarbon or polyether chain of 2-20 units in length which terminates in a thiol group. This thiol may be further modified with a halobenzylic-bifunctional water soluble reagent which allows the conjugate to be immobilized onto the surface thiol group by a permanent thioether bond. Alternatively, the oligonucleotide-tether-thiol group can be converted to a pyridyldisulfide functionality which attaches to the surface thiol by a chemoselectively reversible disulfide

bond. The permanently bound oligonucleotides are immobilized in high density compared to other types of thiol functionalized silane surface and to the avidin-biotin method.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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=> d his

     (FILE 'HOME' ENTERED AT 09:40:06 ON 13 SEP 2004)

     FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 09:40:22 ON
     13 SEP 2004
L1            12 S NUCLEOTIDE AND TERMINAL (5A) THIOL (6A) CHAIN?
L2             2 S L1 AND THIOL(7A) BASE?
L3            10 S L1 NOT L2
L4            10 DUP REM L3 (0 DUPLICATES REMOVED)

=>  S NUCLEOTIDE AND TERMINAL (10a) THIOL (10A) CHAIN?
L5           26 NUCLEOTIDE AND TERMINAL (10A) THIOL (10A) CHAIN?

=> s l5 not l1
L6           14 L5 NOT L1

=> s l6 and thiol (7a) base?
L7            2 L6 AND THIOL (7A) BASE?

=> d l7 bib abs 1-2

L7   ANSWER 1 OF 2  USPATFULL on STN
AN     2003:127841  USPATFULL
TI     DNA mobility modifier
IN     Barron, Annelise E., Evanston, IL, UNITED STATES
PI     US 2003088056      A1   20030508
       US 6723515         B2   20040420
AI     US 2002-197613     A1   20020716 (10)
RLI    Division of Ser. No. US 2000-488472, filed on 20 Jan 2000, GRANTED, Pat.
       No. US 6455682
PRAI   US 1999-116788P     19990120 (60)
DT     Utility
FS     APPLICATION
LREP   Nabeela R. McMillian, MARSHALL, GERSTEIN & BORUN, Sears Tower, Suite
       6300, 233 S. Wacker Drive, Chicago, IL, 60606-6357
CLMN   Number of Claims: 75
ECL    Exemplary Claim: 1
DRWN   14 Drawing Page(s)
LN.CNT 2173
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     Polyamides comprising at least one hydrophilic C.sub.1-C.sub.10
       hydrocarbyl substituent on an amide nitrogen atom, and methods for
       producing and using the same is provided. In particular, polyamides of
       the formula:   ##STR1##

       and methods for using the same for altering the ratio of
       charge/translational frictional drag of binding polymers to allow
       electrophoretic separation of polynucleotides or analogs thereof in a
       non-sieving liquid medium is provided, where a, q, L.sup.1, P.sup.1,
       Q.sup.1, R, R.sup.1, R.sup.10 and R.sup.11 are those described herein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7   ANSWER 2 OF 2  USPATFULL on STN
AN     2002:246845  USPATFULL
TI     DNA mobility modifier
IN     Barron, Annelise, Chicago, IL, United States
PA     Northwestern University, Evanston, IL, United States (U.S. corporation)
PI     US 6455682         B1   20020924
AI     US 2000-488472          20000120 (9)
PRAI   US 1999-116788P     19990120 (60)
DT     Utility
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FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Marshall, Gerstein & Borun.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 15 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 1792
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Polyamides comprising at least one hydrophilic C.sub.1-C.sub.10 hydrocarbyl substituent on an amide nitrogen atom, and methods for producing and using the same is provided. In particular, polyamides of the formula: ##STR1##

and methods for using the same for altering the ratio of charge/translational frictional drag of binding polymers to allow electrophoretic separation of polynucleotides or analogs thereof in a non-sieving liquid medium is provided, where a, q, L.sup.1, P.sup.1, Q.sup.1, R, R.sup.1, R.sup.10 and R.sup.11 are those described herein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l7 1 kwic

L7 ANSWER 1 OF 2 USPATFULL on STN
SUMM [0041] Another embodiment of the present invention provides a polyamide-polynucleotide primer conjugate and method for determining the **nucleotide** sequence of a target nucleic acid which comprises the steps of:
SUMM . . . the primer with a nucleic acid polymerase in the presence of nucleoside triphosphate precursors and at least one chain terminating **nucleotide**, thereby forming conjugated nucleic acid fragments;
SUMM [0045] (d) determining the **nucleotide** sequence of the target nucleic acid by the separated nucleic acid fragments.
DETD . . . A "plurality" of such sequences includes two or more nucleic acid sequences differing in base sequence at one or more **nucleotide** positions.
DETD [0176] Yet still another embodiment of the present invention provides a method for determining the **nucleotide** sequence of a target nucleic acid. The method generally involves annealing a polyamide-polynucleotide primer conjugate to the target nucleic acid. . . the primer with a nucleic acid polymerase in the presence of nucleoside triphosphate precursors and at least one chain terminating **nucleotide** to form conjugated nucleic acid fragments. The conjugated nucleic acid fragments are then separated by electrophoresis in a non-sieving matrix to determine the **nucleotide** sequence of the target nucleic acid.
DETD . . . a glass surface with end-attached polyamides of the present invention. Preferably, polyamides having a reactive functional group, e.g., sulfhydryl (i.e., **thiol**) or amine, in the **terminal** group (which is typically provided by the side **chain** of a cysteine or lysine residue, respectively) are used.
DETD [0325] A mixture of single-stranded oligonucleotides, 20 and 21 **bases** in length, having a 5'-C6 **thiol** modification and 3'-fluorescein (FAM) moiety, were purchased from Oligos, Etc..TM. (Wilsonville, Oreg.) and conjugated to the purified polypeptoids via an. . .
DETD . . . which only one of the four possible dyed-ddNTP terminators is included in the reaction mixture. To accomplish this goal, a 17-**base** sequencing primer with a 5'-**thiol** modification was reacted with a 60 mer polypeptoid as described in Example 4 to yield a peptoid-DNA conjugate for use. . .
CLM What is claimed is:
18. A method for determining the **nucleotide** sequence of a

target nucleic acid molecule comprising the steps of: (a) annealing a polyamide-polynucleotide primer conjugate to the target. . . the primer with a nucleic acid polymerase in the presence of nucleoside triphosphate precursors and at least one chain terminating **nucleotide**, thereby forming conjugated nucleic acid molecule fragments; (c) separating the conjugated nucleic acid molecule fragments by electrophoresis in a non-sieving matrix; and (d) determining the **nucleotide** sequence of said target nucleic acid molecule by said separated nucleic acid fragments.

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=> d his

     (FILE 'HOME' ENTERED AT 09:40:06 ON 13 SEP 2004)

     FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 09:40:22 ON
     13 SEP 2004
L1            12 S NUCLEOTIDE AND TERMINAL (5A) THIOL (6A) CHAIN?
L2             2 S L1 AND THIOL(7A) BASE?
L3            10 S L1 NOT L2
L4            10 DUP REM L3 (0 DUPLICATES REMOVED)
L5            26 S NUCLEOTIDE AND TERMINAL (10A) THIOL (10A) CHAIN?
L6            14 S L5 NOT L1
L7             2 S L6 AND THIOL (7A) BASE?

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